

The apparatus can operate in an ablation mode or a sub-ablation mode. The closed configuration is adapted for clamping and coagulating a target tissue while the apparatus is operating in the sub-ablation mode, while the open configuration is adapted for ablating the target tissue via molecular dissociation of tissue components. A method of the present invention comprises clamping a target tissue or organ with an electrosurgical probe. A first high frequency voltage is applied between the active electrode and the return electrode to effect coagulation of the clamped tissue. Thereafter, a second high frequency voltage is applied to effect localized molecular dissociation of the coagulated tissue. The present invention allows the ablation or modification of the target tissue with minimal or no damage to surrounding, non-target tissue.